

WHAT IS CLAIMED IS:

1. An ink jet recording apparatus comprising:
a carriage for mounting a recording head for
effecting recording by discharging recording ink and
5 for moving said recording head; and
recovery means for effecting a recovery
operation with respect to said recording head,
wherein said recording apparatus is forwarded
from a manufacturing factory in a condition that said
10 recording head filled with transporting ink different
from the recording ink is mounted on said carriage,
and wherein an on-arrival recovery mode executed by
said recovery means upon first usage of said
recording apparatus by the user differs from a normal
15 recovery mode executed by said recovery means after
the first usage.
2. An ink jet recording apparatus according to
claim 1, wherein said apparatus includes suction
20 means for effecting suction from said recording head
as recovery means, and suction pressure in ink
suction from said recording head by means of said
suction means in said on-arrival recovery mode is set
to be greater than suction pressure in ink suction in
25 said normal recovery mode.
3. An ink jet recording apparatus according to

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claim 1, wherein said apparatus includes suction means for effecting suction from said recording head as recovery means, and a suction amount in ink suction from said recording head by means of said suction means in said on-arrival recovery mode is set to be greater than a suction amount in ink suction in said normal recovery mode.

4. An ink jet recording apparatus according to claim 1, wherein said apparatus includes suction means for effecting suction from said recording head as recovery means, and the number of suction operations in ink suction from said recording head by means of said suction means in said on-arrival recovery mode is set to be greater than the number of suction operations in ink suction in said normal recovery mode.

5. An ink jet recording apparatus according to claim 1, wherein said on-arrival recovery mode is a mode in which one kind of recovery operations in said normal recovery mode are executed continuously by plural times.

6. An ink jet recording apparatus according to claim 1, wherein said recovery means includes suction means for effecting suction from said recording head,

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and the number of idle suction operations for discharging the ink from a cap by driving said suction means in a communication condition between the interior of said cap and the atmosphere upon ink
5 suction from said recording head by said suction means in said on-arrival recovery mode is set to be greater than the number of idle suction operations in said normal recovery mode.

10 7. An ink jet recording apparatus according to claim 1, wherein said recovery means includes suction means for effecting suction from said recording head and a wiper for wiping said recording head, and the number of wiping operations of said wiper after ink
15 suction from said recording head by said suction means in said on-arrival recovery mode is set to be greater than the number of wiping operations after ink suction in said normal recovery mode.

20 8. An ink jet recording apparatus according to claim 1, wherein said recovery means includes a wiper for wiping said recording head and a cleaner for cleaning said wiper, and the number of cleaning operations of said cleaner after the wiping of said
25 wiper in said on-arrival recovery mode is set to be greater than the number of cleaning operations after the wiping in said normal recovery mode.

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9. An ink jet recording apparatus according to claim 1, wherein said recovery means includes suction means for effecting suction from said recording head and a wiper for wiping said recording head, and, in
5 said on-arrival recovery mode, after ink suction from said recording head is firstly effected by said suction means, wiping of said wiper is effected.

10. An ink jet recording apparatus according to
10 claim 1, wherein viscosity of the transporting ink is greater than that of the recording ink.

11. An ink jet recording apparatus according to claim 1, wherein the recording ink includes color
15 material and the transporting ink does not include color material or has color component fewer than that of the recording ink.

12. An ink jet recording apparatus comprising:
20 a carriage for mounting a recording head for effecting recording by discharging recording ink and for moving said recording head; and
recovery means for effecting a recovery operation with respect to said recording head,
25 wherein said recording apparatus is forwarded from a manufacturing factory in a condition that said recording head filled with transporting ink different

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from the recording ink is mounted on said carriage,
and wherein an on-arrival recovery mode executed by
said recovery means upon first usage of said
recording apparatus by the user is the same as a
5 recovery mode executed upon exchange of said
recording head among a plurality of recovery modes
executed by said recovery means after the first usage.

10 13. An ink jet recording apparatus comprising:
a carriage for mounting a recording head for
effecting recording by discharging recording ink and
for moving said recording head; and

a mounting section for mounting an ink tank for
storing the recording ink to be supplied to said
15 recording head,

wherein said recording apparatus is forwarded
from a manufacturing factory in a condition that said
recording head filled with transporting ink different
from the recording ink is mounted on said carriage,
20 and further comprising:

detection means for detecting whether said ink
tank is mounted on said mounting section; and

alarm means for emitting alarm to the user of
said recording apparatus if the fact that said ink
25 tank is not mounted on said mounting section upon
first usage of said recording apparatus by the user
is detected by means of said detection means.

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14. An ink jet recording apparatus according to
claim 1, 12 or 13, wherein said recording head
includes an ink discharging electrothermal converter
for generating thermal energy utilized for
5 discharging the ink.

15. An ink jet recording apparatus according to
claim 14, wherein the ink is discharged by utilizing
pressure change based on growth of a bubble created
10 by film boiling caused by the thermal energy
generated by said electrothermal converter.

16. An ink jet recording apparatus according to
claim 1, 12 or 13, wherein the transporting ink is
15 heated by an ink temperature maintaining
electrothermal converter within said recording head
before or during the ink suction by said suction
means in said on-arrival recovery mode.

20 17. An ink jet recording apparatus according to
claim 1, 12 or 13, wherein the transporting ink is
heated by an ink discharging electrothermal converter
within said recording head before or during the ink
suction by said suction means in said on-arrival
25 recovery mode.

18. An ink jet recording apparatus according to

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claim 1, 12 or 13, wherein the transporting ink is heated by an ink temperature maintaining electrothermal converter and an ink discharging electrothermal converter within said recording head
5 before or during the ink suction by said suction means in said on-arrival recovery mode.

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19. An ink jet recording apparatus according to claim 1, 12 or 13, wherein the transporting ink is
10 discharged by an ink discharging electrothermal converter within said recording head before or during the ink suction by said suction means in said on-arrival recovery mode.

15 20. An ink jet recording apparatus according to claim 1, 12 or 13, wherein the transporting ink is heated by an ink temperature maintaining electrothermal converter within said recording head and the transporting ink is discharged by an ink
20 discharging electrothermal converter during the ink suction by said suction means in said on-arrival recovery mode.

25 21. An ink jet recording apparatus according to claim 1, 12 or 13, wherein the transporting ink is heated by an ink temperature maintaining electrothermal converter within said recording head

from before the ink suction to the end of the ink suction by said suction means in said on-arrival recovery mode.

5 22. An ink jet recording apparatus according to claim 1, 12 or 13, wherein the transporting ink is heated by an ink discharging electrothermal converter within said recording head from before the ink suction to the end of the ink suction by said suction
10 means in said on-arrival recovery mode.

 23. An ink jet recording apparatus according to claim 1, 12 or 13, wherein the transporting ink is heated by an ink temperature maintaining
15 electrothermal converter and an ink discharging electrothermal converter within said recording head from before the ink suction to the end of the ink suction by said suction means in said on-arrival recovery mode.
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 24. An ink jet recording apparatus according to claim 1, 12 or 13, wherein the transporting ink is discharged by an ink discharging electrothermal converter within said recording head from before the
25 ink suction to the end of the ink suction by said suction means in said on-arrival recovery mode.

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25. An ink jet recording apparatus according to claim 1, 12 or 13, wherein the transporting ink is heated by an ink temperature maintaining electrothermal converter and the transporting ink is discharged by an ink discharging electrothermal converter within said recording head form before the ink suction to the end of the ink suction by said suction means in said on-arrival recovery mode.

26. An ink jet recording apparatus according to claim 1, 12 or 13, wherein, when the transporting ink is heated and discharged by an ink discharging electrothermal converter within said recording head from before the ink suction to the end of the ink suction by said suction means in said on-arrival recovery mode, an input signal value, frequency, ink color to be inputted and a discharge port can be selected appropriately, and any input signal value, frequency and ink color can be inputted to said ink temperature holding electrothermal converter of said recording head.

27. An ink jet recording apparatus according to claim 1, 12 or 13, further comprising time counting means for counting an elapsed time from the forwarding.

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28. An ink jet recording apparatus according to claim 1, 12 or 13, further comprising time reading means for reading the elapsed time from the forwarding.

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29. An ink jet recording apparatus according to claim 1, 12 or 13, further comprising control means for judging and determining a heating amount of said recording head on the basis of the elapsed time from the forwarding.

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30. An ink jet recording apparatus according to claim 1, 12 or 13, further comprising temperature history storing means for storing temperature history from the forwarding.

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31. An ink jet recording apparatus according to claim 1, 12 or 13, further comprising temperature history reading means for reading temperature history from the forwarding.

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32. An ink jet recording apparatus according to claim 1, 12 or 13, further comprising heating control means for judging and determining a heating amount of said recording head on the basis of temperature history from the forwarding.

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33. An ink jet recording apparatus according to claim 32, wherein a heating temperature for each color can be set by said heating control means.

5 34. An ink jet recording apparatus according to claim 1, 12 or 13, further comprising storing means capable of re-writing and calling an elapsed time and temperature history from the forwarding.

10 35. An ink jet recording apparatus according to claim 12 or 13, wherein viscosity of the transporting ink is greater than that of the recording ink.

15 36. A method for handling an ink jet recording apparatus comprising a carriage for mounting a recording head for effecting recording by discharging recording ink and for moving said recording head, and recovery means for effecting a recovery operation with respect to said recording head, the method
20 comprising the steps of:

 forwarding said ink jet recording apparatus from a manufacturing factory in a condition that said recording head filled with transporting ink different from the recording ink is mounted on said carriage;

25 and

 executing an on-arrival recovery mode different from a normal recovery mode executed by said recovery

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means after first usage of said recording apparatus by the user by means of said recovery means upon the first usage, with respect to said recording head.

- 5 37. A method for handling an ink jet recording apparatus comprising a carriage for mounting a recording head for effecting recording by discharging recording ink and for moving said recording head, and recovery means for effecting a recovery operation
10 with respect to said recording head, the method comprising the steps of:

 forwarding said ink jet recording apparatus from a manufacturing factory in a condition that said recording head filled with transporting ink different
15 from the recording ink is mounted on said carriage; and

 executing an on-arrival recovery mode same as a recovery mode executed upon exchange of said recording head among a plurality of recovery modes
20 executed by said recovery means after first usage of said recording apparatus by the user by means of said recovery means upon the first usage, with respect to said recording head.

- 25 38. A method for handling an ink jet recording apparatus comprising a carriage for mounting a recording head for effecting recording by discharging

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recording ink and for moving said recording head, and
a mounting section for mounting an ink tank for
storing the recording ink to be supplied to said
recording head, the method comprising the steps of:

5 forwarding said ink jet recording apparatus from
a manufacturing factory in a condition that said
recording head filled with transporting ink different
from the recording ink is mounted on said carriage;
and

10 emitting alarm to the user of said recording
apparatus if the fact that the said tank is not
mounted on said mounting section upon first usage of
said recording apparatus by the user is detected.

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